Plants

1-2 The student will demonstrate an understanding of the special characteristics and needs of plants that allow them to survive in their own distinct environments. (Life Science)

1.2.4 Summarize the life cycle of plants (including germination, growth, and the production of flowers and seeds).
Taxonomy level: 2.4-B Understand Conceptual Knowledge

Previous/Future knowledge: In Kindergarten (K-2.5), students recognized that organisms go through changes of growth called life cycles. This is a foundational concept that students will develop further in 3rd grade (3-2.1) when students illustrate the life cycles of seed plants and various animals and summarize how they grow and are adapted to conditions within their habitats. In 6th grade (6-2.5), students will summarize each process in the life cycle of flowering plants (including germination, plant development, fertilization, and seed production).

It is essential for students to know that plants have life cycles with distinct stages. A plant's life cycle describes the stages it goes through during its life or how it germinates, grows, flowers, and seeds. The four parts of a life cycle students need to know at this grade level are:

Germination
- The process in which a plant begins to sprout or grow from the seed

Growth
- The process of increasing in size and developing from a seedling to a mature plant

Flowers
- The part of the plant that makes seeds.
- Flowers have to receive pollen to make seeds.
- Most flowers have special characteristics such as color or scent, which usually attract different insects.
- Insects carry this pollen from flower to flower.

Seeds
- The seed is what flowering plants grow from.
- It contains the "baby" plant and the food it will need to grow.
- The seed is usually covered with a protective covering.

It is not essential for students to know how seeds are produced (fertilization) or the parts of the flower that make seeds. Students do not need to know about plants that grow from spores.

Assessment Guidelines:
The objective of this indicator is to *summarize* the stages of plant growth and development; therefore, the primary focus of assessment should be to generalize the parts in the life cycles. However, appropriate assessments should also require students to *illustrate* life cycles of plants using words, pictures, or diagrams; or *classify* by sequencing the stages of growth.